2. Whether different Load-ſtones will give different Directions? And whether fainter or ſtronger touches upon one and the ſame Magnet, will cauſe any Variation in the Directions? For which purpoſe, as many Load-ſtones ſhould be procured, as could be had, and a good number of Needles exactly made, of the ſame Metal, bigneſs, and figure?

PROPOSALS

To try the Effects of the Pneumatick Engine *exhauſted, in Plants, Seeds, Eggs of Silkworms.*

The Ingenious Dr. *Beale* did formerly ſuggeſt, as follows. It would be, I think (*ſaith he*) very well worth the tryal, to ſee what Effects would be produced on Plants, put into the Pneumatick (or Rarifying) Engine of Mr. *Boyle*, with the Earth about their Roots, and flouriſhing; whether they would not ſuddenly wither, if the Air were totally taken from them. And particularly to try in the Seaſon, *Cherry-Bloſſoms*, when partly opened, partly not opened, upon a Branch; to wit, whether the Air may be ſo attenuated as to blaſt. But it may be noted, that the Bloſſoms do not forthwith diſcover the blaſt: An old experienced Country-man having once given me notice of a blaſty Noon, (it being then a Sultry weather, and ſomewhat gloomy with the thickneſs of Exhalations, almoſt like a very thick Miſt) and within a day or two ſhewing the proof upon the Cherry-Bloſſoms then flagging, but not much altering their Colour till two days more were paſt.

The Noble Mr. Boyle *ſuggeſts as proper for the approaching Seaſon*; That it may be tried,

1. Whether Seeds (eſpecially ſuch as are of a haſty growth, *vid. Orpin, Lettice, Garden-creſs-ſeeds, &c.*) will germinate and thrive in the exhauſted Receiver of the ſaid *Engine*?

2. Whether the Excluſion of Air from the *Senſitive* Plant, would be harmful to it?

3. Whether the Grafting of Pears upon *Spina Cervina* (the almoſt only *Purgative* Vegetable known in *England*) will produce the effect of communicating to the Fruit that purging quality, or not?

4. Whether *Silkworms Eggs* will be hatched in ſuch an exhauſted Receiver, in the Seaſon proper for hatching?

To

To which may be added, the Trials of putting in a Vial full of water, ſome of thoſe Herbs that will ſhoot and grow in water alone, including them in ſuch a Receiver, and pumping out what Air you can, to ſee whether they will then ſhoot, or not?

And though ſome of theſe *Propoſals* have been formerly begun to be Experimented, yet ought they to be diligently proſecuted, to ſee how far the Air is neceſſary to Vegetation; and whether Plants do indeed live as much upon the Air, as the Earth; and the Branches of them are rooted (as it were) *in* and quickned *by* the Air, as their Roots are planted and nouriſht in and by the Earth?

The Experiment heretofore made of this kinde, was, That ſome Lettice-ſeed being ſown upon ſome Earth in the open Air; and ſome of the ſame Seed at the ſame time upon other Earth in a Glaſs-Receiver of the above mention'd Engine, afterwards exhauſted of Air; the Seed expoſed to the Air was grown up an inch and a half high, within eight days; but that in the exhauſted Receiver, not at all. And, Air being again admitted into the ſaid emptied Receiver, to ſee whether any of the Seed would then come up; it was found, that in the ſpace of one week it was grown up to the height of two or three Inches.

OBSERVATIONS

Concerning *Emmets* or *Ants*, their Eggs, Production, Progreſs, coming to Maturity, Uſe, *&c.*

This was communicated by Doctor Edmund King, *Fellow of the R. Society, at the Inſtance of the Publiſher, as followeth.*

1. THere have occurr'd to my Obſervation but three ſorts of *Ants*, commonly without Wings; *vid.* Very *Black*, *Dark Brown*, and the third ſort of near the colour uſually call'd *Philemort.*

2. Each kind inhabit by themſelves in their ſeveral Banks; two ſorts ſeldom or never being found together; and if either of the other two ſorts be put into the black Ants Bank, 'tis worth obſerving, what enmity there is betwixt theſe little Creatures, and with what violence the *Black* ones will ſeize on the *Red*, never leaving to pinch them on the head with their *Forceps* or Claws, till they have kill'd them upon the place: which done, they will car-